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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/721,399 | 11/25/2003 | Francois Baccelli | YOR920030277US1 (8728-634) | 8078 |
| 46069 | 7590 | 11/16/2007 | EXAMINER | |
| F. CHAU & ASSOCIATES, LLC 130 WOODBURY ROAD WOODBURY, NY 11797 | | | BOKHARI, SYED M | |
| | | ART UNIT | PAPER NUMBER | |
| | | 2616 | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | |
|------------------------------|------------------------|---------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/721,399 | BACCELLI ET AL. |
| | Examiner | Art Unit |
| | Syed Bokhari | 2616 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 25 November 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 5 and 16 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-4,7,8,10-15,18,19,21 and 22 is/are rejected.
- 7) Claim(s) 6,9,17 and 20 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 25 November 2003 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>04/05/2004</u> | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Response to Amendment***

Applicant's amendment file on August 16th, 2007 has been entered.

Claims 1 and 12 have been amended. Claims 5 and 16 have been cancelled.

Claims 1-4, 6-15 and 17-22 are still pending in this application, with claims 1 and 12 being independent.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any

inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1, 2, 4, 10, 12-13, 15 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCanne (2003/0088696 A1) in view of Haas et al. (7,035,937 B2).

McCanne discloses a communication system with overlay protocol to route information according to overlay routing table with the following features: regarding claim 1, a computer implemented method for group communication over a network of processors comprising (Fig. 1, overlay router arrangement, see “overlay routing processors” recited in paragraph 0012 line 1-10), determining an overlay spanning tree comprising (Fig. 1, overlay router arrangement, see “source to active receivers” recited in paragraph 0050 line 8-10), an origin node and at least one receiving node (Fig. 1, overlay router arrangement, see “source to active receivers” recited in paragraph 0045 line 1-5) and controlling a source communication rate between the origin node and at last the one receiving node to be less than or equal to a bottleneck rate of the overlay spanning tree having a selected configuration (Fig. 1, overlay router arrangement, see “flow in a

bandwidth managed system" recited in paragraph 0047 lines 1-11); regarding claim 4, further comprising scaling the overlay spanning tree to an arbitrary group size (Fig. 2, processing and management, see "multipoint infrastructure transport protocol" recited in paragraph 0049 lines 7-10 and paragraph 0050 lines 1-7); regarding claim 12, a program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform (Fig. 1, overlay router arrangement, see "overlay routing processors" recited in 0012 line 1-4), method steps for group communication over a network of processors, the method steps comprising: determining an overlay spanning tree comprising (Fig. 1, overlay router arrangement, see "instruction for overlay group" recited in 0012 line 4-10), determining an overlay spanning tree comprising (Fig. 1, overlay router arrangement, see "source to active receivers" recited in paragraph 0050 line 8-10), an origin node and at least one receiving node (Fig. 1, overlay router arrangement, see "source to active receivers" recited in paragraph 0045 line 1-5) and controlling a source communication rate to be less than or equal to a bottleneck rate of the overlay spanning tree (Fig. 1, overlay router arrangement, see "flow in a bandwidth managed system" recited in paragraph 0047 lines 1-11) and regarding claim 15, further comprising scaling the overlay spanning tree to an arbitrary group size (Fig. 2, processing and management, see "multipoint infrastructure transport protocol" recited in paragraph 0049 lines 7-10 and paragraph 0050 lines 1-7).

McCanne does not disclose the following features: regarding claim 1, determining a maximum throughput of the spanning tree among all possible

configurations of the spanning tree given a reduced overlay distribution tree and selecting a configuration of the overlay spanning tree having a maximum throughput; regarding claim 12, determining a maximum throughput of the spanning tree among all possible configurations of the spanning tree given a reduced overlay distribution tree; regarding claim 2, further comprising protecting data delivery by link error recovery; regarding claim 10, further comprising redetermining the spanning tree upon determining that an existing node has left the spanning tree; regarding claim 13, further comprising protecting data delivery by link error recovery and regarding claim 21, further comprising redetermining the spanning tree upon determining that an existing node has left the spanning tree.

Haas et al. discloses a communication system offering independent tree ad hoc multicast routing with the following features: regarding claim 1, determining a maximum throughput of the spanning tree among all possible configurations of the spanning tree given a reduced overlay distribution tree (Fig. 1, spanning tree, see "computing maximally independent trees" recited in column 7 lines 53-60) and selecting a configuration of the overlay spanning tree having a maximum throughput (Fig. 1, spanning tree, see "computing maximally independent trees" recited in column 7 lines 60-67); regarding claim 2, further comprising protecting data delivery by link error recovery (Fig. 1, spanning tree, see "calculate backup trees" recited in column 5 lines 20-31); regarding claim 10, further comprising redetermining the spanning tree upon determining that an existing node has left the spanning tree (Fig. 1, spanning tree, see "computes

alternating routing trees or paths" recited in column 2 lines 59-67 and column 3 lines 1-4); regarding claim 12, determining a maximum throughput of the spanning tree among all possible configurations of the spanning tree given a reduced overlay distribution tree (Fig. 1, spanning tree, see "computing maximally independent trees" recited in column 7 lines 53-60); regarding claim 13, further comprising protecting data delivery by link error recovery (Fig. 1, spanning tree, see "calculate backup trees" recited in column 5 lines 20-31) and regarding claim 21, further comprising redetermining the spanning tree upon determining that an existing node has left the spanning tree (Fig. 1, spanning tree, see "computes alternating routing trees or paths" recited in column 2 lines 59-67 and column 3 lines 1-4).

It would have been obvious to one of the ordinary skill in the art at the time of invention to modify the system of McCanne by using the features, as taught by Haas et al., in order to provide the functionality of maximum throughput. The motivation of enhancing the functionality is to compute the overlay routing by recalculating before the first tree fails in a cost effective manner.

5. Claims 3, 7, 11, 14, 18 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCanne (2003/0088696 A1) in view of Haas et al. (7,035,937 as applied to claims 1 and 12 above, and further in view of Silton et al. (USP 6,327,252).

McCanne and Haas et al. described the claimed limitations as described

in paragraph 4 above. McCanne and Haas et al. do not disclose the following features: regarding claim 3, wherein the overlay spanning tree comprises a plurality of nodes and wherein the data delivery is reliable such that each node receives the same data; regarding claim 7, further comprising joining a new node to the spanning tree; regarding claim 11, further comprising: determining orphaned child nodes of the existing node that has left the spanning tree and performing a join for each orphaned child node; regarding claim 14, wherein the overlay spanning tree comprises a plurality of nodes and wherein the data delivery is reliable such that each node receives the same data; regarding claim 18, further comprising joining a new node to the spanning tree and regarding claim 22, determining orphaned child nodes of the existing node that has left the spanning tree; and performing a join for each orphaned child node.

Silton et al. discloses a communication system offering automatic link establishment between the distributed servers as members of overlay spanning tree with the following features: regarding claim 3, wherein the overlay spanning tree comprises a plurality of nodes (Fig. 1, distributed network, see "plurality of nodes" recited n column 2 lines 39-55) and wherein the data delivery is reliable such that each node receives the same data (Fig. 1, distributed network, see "shares processing workload" recited in column 2 lines 65-67 and column 3 line 1); regarding claim 7, further comprising joining a new node to the spanning tree (Fig. 1, plurality of servers, see "automatic server discovery" recited in column 3 lines 25-28) ; regarding claim 11, further comprising: determining orphaned child nodes of the existing node that has left the spanning tree (Fig. 2,

spanning tree, see "enters hunt mode" recited in column 3 lines 63-67 and column 4 lines 1-17) and performing a join for each orphaned child node (Fig. 2, spanning tree, see "discovery mode" recited in column 3 lines 19-24 and lines 45-52) ; regarding claim 14, wherein the overlay spanning tree comprises a plurality of nodes (Fig. 1, distributed network, see "plurality of nodes" recited in column 2 lines 39-55) and wherein the data delivery is reliable such that each node receives the same data (Fig. 1, distributed network, see "shares processing workload" recited in column 2 lines 65-67 and column 3 line 1); regarding claim 18, further comprising joining a new node to the spanning tree (Fig. 1, plurality of servers, see "automatic server discovery" recited in column 3 lines 25-28) and regarding claim 22, determining orphaned child nodes of the existing node that has left the spanning tree (Fig. 2, spanning tree, see "enters hunt mode" recited in column 3 lines 63-67 and column 4 lines 1-17) and performing a join for each orphaned child node (Fig. 2, spanning tree, see "discovery mode" recited in column 3 lines 19-24 and lines 45-52).

It would have been obvious to one of the ordinary skill in the art at the time of invention to modify the system of McCanne with Haas et al. by using the features, as taught by Silton et al. in order to provide the functionality of discovery and hunt. The motivation of enhancing the functionality is to building the tree arrangement in efficiently and in a cost effective manner.

6. Claims 8 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCanne (2003/0088696 A1) in view of Haas et al. (7,035,937

as applied to claims 1 and 12 above, and further in view of Hsu (USP 6,363,319 B1).

McCanne and Haas et al. described the claimed limitations as described in paragraph 4 above. McCanne and Haas et al. do not disclose the following features: regarding claim 8, comprising joining the new node to an existing node of the spanning tree and upon determining that the existing node has a bandwidth of greater than or equal to an existing rate and regarding claim 19, comprising joining the new node to an existing node of the spanning tree and upon determining that the existing node has a bandwidth of greater than or equal to an existing rate.

Hsu discloses a communication system offering route selection with bandwidth requirement with the following features: regarding claim 8, comprising joining the new node to an existing node of the spanning tree (Fig. 7, process 700, see "provide admission control" recited in column 10 lines 10-13) and upon determining that the existing node has a bandwidth of greater than or equal to an existing rate (Fig. 7, process 700, see "determine the sum of the biased cost, step 720" recited in column 10 lines 13-21) and regarding claim 19, comprising joining the new node to an existing node of the spanning tree (Fig. 7, process 700, see "provide admission control" recited in column 10 lines 10-13) and upon determining that the existing node has a bandwidth of greater than or equal to an existing rate (Fig. 7, process 700, see "determine the sum of the biased cost, step 720" recited in column 10 lines 13-21).

It would have been obvious to one of the ordinary skill in the art at the time of invention to modify the system of McCanne with Haas et al. by using the features, as taught by Hsu in order to provide the functionality of joining new nodes after calculating the existing node bandwidth. The motivation of enhancing the functionality is to enhance the functionality of the system for efficient data transfer and in a cost effective manner.

Allowable Subject Matter

7. Claims 6, 9 17 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

8. Applicant's arguments with respect to claims 1, 2, 12 and 13 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

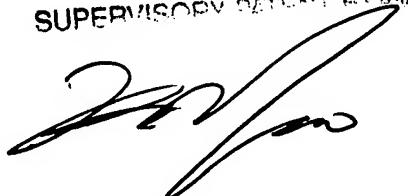
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Syed Bokhari whose telephone number is (571) 270-3115. The examiner can normally be reached on Monday through Friday 8:00-17:00 Hrs..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang B. Yao can be reached on (571) 272-3182. The

fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KWANG BIN YAO
SUPERVISORY PATENT EXAMINER

A handwritten signature in black ink, appearing to read "Kwang Bin Yao".